

September 5, 2001

Mr. A. Alan Blind
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

SUBJECT: ONE-TIME RELIEFS RELATED TO INSERVICE TESTING (IST) OF PUMP
AND VALVES, INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
(TAC NO. MB2576)

Dear Mr. Blind:

In a letter dated July 31, 2001, Consolidated Edison Company of New York, Inc. (Con Edison) submitted several requests for relief from certain requirements in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Inservice Testing," for the Indian Point Nuclear Generating Unit No. 2. Specifically, Con Edison requested three one-time relief requests for the pump and valve IST program that proposed alternatives that would extend the frequency of several inservice tests until the next refueling outage.

The NRC staff reviewed the proposed requests for one-time relief against the requirements of Section XI of the 1989 Edition of the ASME Code. The results are provided in the enclosed safety evaluation.

The NRC staff has concluded that compliance with the ASME Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(ii), the staff authorizes the proposed alternative to the Code requirements described in pump Relief Request 5 and valve Relief Requests 43 and 44 until the end of the 2002 refueling outage.

If you should have any questions, please contact Patrick Milano at 301-415-1457. This completes the NRC staff's action on TAC No. MB2576.

Sincerely,
/RA/

Peter S. Tam, Acting Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure: Safety Evaluation

cc w/encl: See next page

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ACCESSION Number: ML012410446 *See previous concurrence

OFFICE	PDI-1:PM	PDI-1:LA	EMEB:SC*	OGC*	PDI-1:(A)SC
NAME	PMilano	TCClark for SLLittle	DTerao	RHoefling	PTam
DATE	09/05/01	09/05/01	08/30/01	09/04/01	09/ 5 /01

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PUBLIC

PDI-1 Reading

E. Adensam

Acting SC, PDI-1

D. Terao

P. Milano

M. Kotzalas

S. Little

B. Platchek, R-I

G. Hill (2)OGC

B. Haag, EDO

ACRS

Indian Point Nuclear Generating Station
Units 1 & 2

Mayor, Village of Buchanan
236 Tate Avenue
Buchanan, NY 10511

Mr. William M. Flynn, President
New York State Energy, Research,
and Development Authority
Corporate Plaza West
286 Washington Ave. Extension
Albany, NY 12203-6399

Mr. John McCann
Manager of Nuclear Safety and
Licensing
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P.O. Box 38
Buchanan, NY 10511

Mr. Brent L. Brandenburg
Assistant General Counsel
Consolidated Edison Company
of New York, Inc.
4 Irving Place - 1822
New York, NY 10003

David Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street, NW., Suite 600
Washington, DC 20006

Edward Smeloff
Pace University School of Law
The Energy Project
78 North Broadway
White Plains, NY 10603

Charles Donaldson, Esquire
Assistant Attorney General
New York Department of Law
120 Broadway
New York, NY 10271

Ms. Charlene D. Faison, Director
Nuclear Licensing
Power Authority of the State
of New York
123 Main Street
White Plains, NY 10601

Mr. Thomas Rose
Secretary - NFSC
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Paul Eddy
New York State Department of
Public Service
3 Empire State Plaza, 10th Floor
Albany, NY 12223

Michael Mariotte
Nuclear Information & Resources Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Deborah Katz
Executive Director
Citizens Awareness Network
P.O. Box 83
Shelburne Falls, MA 01370

Marilyn Elie
Organizer
Citizens Awareness Network
2A Adrain Court
Cortlandt Manor, NY 10567

Tim Judson
Organizer
Citizens Awareness Network
140 Bassett Street
Syracuse, NY 13213

Indian Point Nuclear Generating Station
Units 1 & 2

Kyle Rabin
Environmental Advocates
353 Hamilton Street
Albany, NY 12210

Mark Jacobs
Executive Director
Westchester Peoples Action Coalition
255 Dr. M.L. King Jr. Boulevard
White Plains, NY 10601

Paul Gunter
Nuclear Information & Resource Service
1424 16th Street, NW, #404
Washington, DC 20036

Mark J. Wetterhahn, Esq.
Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005

Douglas E. Levanway, Esq.
Wise Carter Child & Caraway
P.O. Box 651
Jackson, Mississippi 39205

Jay E. Silberg, Esq.
Shaw Pittman
2300 N Street, N.W.
Washington, DC 20037

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INSERVICE TESTING PROGRAM PLAN

REQUESTS FOR RELIEF

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

DOCKET NO. 50-247

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a (f)(6)(i), (a)(3)(i), or (a)(3)(ii). In order to obtain authorization or relief, the applicant must demonstrate that: (1) conformance is impractical for its facility; (2) the proposed alternative provides an acceptable level of quality and safety; or (3) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making the necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

2.0 BACKGROUND

In a letter dated July 31, 2001, Consolidated Edison Company of New York, Inc. (the licensee) submitted three one-time relief requests for the third 10-year interval of the IST program for pumps and valves for Indian Point Nuclear Generating Unit No. 2 (IP2). The licensee is currently implementing its third 10-year IST interval at IP2 which began on July 1, 1994, and is scheduled to end May 18, 2005. The IST program was developed in accordance with the requirements of the 1989 Edition of the ASME Code by implementation of the 1987 ASME/ANSI *Operations and Maintenance (OM) Standards* Part 1, Part 6, and Part 10 (OM-1, OM-6, and OM-10) for IST of safety and relief devices, pumps, and valves.

3.0 REQUESTS FOR RELIEF FOR VALVES

3.1 Relief Request 43

The licensee requested relief from the 2-year valve position verification requirement of OM-10 paragraph 4.1 for those valves where stroke testing can only be performed during plant shutdown. The licensee proposed a one-time alternative to perform position verification of these valves during the 2002 refueling outage.

3.1.1 Licensee's Basis for Requesting Relief

The licensee states:

Relief is requested from the ASME OM-10, Para 4.1 requirement to observe locally, at least once every 2 years, that valve operation is accurately indicated. This relief request proposes an extension for those valves which are subject to valve position verification between September 2002 and November 2002. An extension not to exceed three months is requested in order to allow these tests to be performed at the next refueling outage, which is expected to commence no later than November 19, 2002. This relief request is applicable to those valves where stroke testing may only be performed during plant shutdown.

The proposed extension provides an acceptable level of quality and safety. The subject valves are generally undisturbed at their normal positions except, while stroke testing during plant shutdown conditions. The valves are not subject to constant wear or harsh environmental conditions and remain idle during the majority of the period between tests. Thus, the period of time between tests does not impact valve position indication and the level of quality and safety would not be significantly impacted.

Strict compliance with the ASME OM-10 requirement would result in hardship and unwarranted cost without a compensating increase in the level of quality and safety. A plant shutdown solely for the purpose of performing the valve cycling required for valve position verification would unnecessarily challenge safety-related equipment and could create hazards that could be avoided until the next scheduled refueling outage. Furthermore, the need to keep personnel radiation exposure as low as reasonably achievable (ALARA) presents additional justification for the proposed relief request extension.

3.1.2 Alternative Testing

The licensee proposes:

The valves will have their position indication verified during the 2002 refueling outage, which is expected to commence no later than November 19, 2002. Relief request expires at the end of the 2002 refueling outage.

3.1.3 Evaluation

For valves which can only be stroke tested during plant shutdown, the licensee requests relief from the requirements of OM-10 paragraph 4.1. The Code requires valves with remote position indicators to be observed locally at least once every 2 years to verify that valve operation is accurately indicated. The licensee requests an extension of 3 months in order to allow the position verification to be performed at the next refueling outage in November 2002.

Per the requirements of the Code, position verification of these valves must be performed by September 2002. However, the licensee's next scheduled refueling outage is expected to occur in November 2002. In order for the licensee to comply with the Code requirements, IP2 would need to be placed in cold shutdown prior to September 2002 solely for the purpose of performing the valve cycling required for valve position verification. The subject valves are generally undisturbed at their normal positions except, while stroke testing during plant shutdown conditions. The valves are not subject to constant wear or harsh environmental conditions and remain idle during the majority of the period between tests. The licensee's alternative proposes to delay test for 3 months. Bringing the plant to cold shutdown to perform valve position verification would unnecessarily challenge safety-related equipment and would result in hardship without a compensating increase in the level of quality and safety.

3.1.4 Conclusion

The NRC staff finds that compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, the licensee's one-time alternative to the requirements of OM-10 paragraph 4.1 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii). This alternative is authorized until the end of the 2002 refueling outage.

3.2 Relief Request 44

Relief is requested from the 2-year test frequency requirement of OM-10 paragraph 4.2.2.3(a) for valve 846 in the safety injection system. The licensee proposes a one-time alternative to perform the leakage rate test of the valve during the 2002 refueling outage.

3.2.1 Licensee's Basis for Requesting Relief

The licensee states:

Relief is requested from the ASME OM-10, Para. 4.2.2.3(a) requirement to conduct a leakage rate test at least once every two years. The test was last performed during May 2000 while the plant was shutdown for a refueling outage. The twenty-four (24) month time interval for testing the valve will expire prior to the next refueling outage scheduled for November 2002. The testing of this valve requires the plant to be in cold shutdown or refueling and the previous tests have been performed during either extended shutdowns or refueling outages. During the conduct of the test, the ability to add water to the Reactor Coolant System (RCS) via the SIS [safety injection system], RHR [residual heat removal], or Chemical and Volume Control System will be disabled.

This relief request seeks an extension for the leak testing of valve 846, currently scheduled to be conducted in May 2002. An extension not to exceed seven (7) months is requested to allow the tests to be performed at the next scheduled refueling outage, which is expected to commence no later than November 19, 2002.

The requested extension provides an acceptable level of quality and safety. The subject valve is normally locked open and not disturbed from the open position except for closure testing. The valve is not subject to constant wear or harsh environmental conditions and remains in one position during the period between tests. Thus, the period of time between tests will not impact the leak tightness of the valve and the level of quality and safety.

Strict compliance with the ASME OM-10 requirement would result in hardship and unwarranted cost without a compensating increase in the level of quality and safety. A plant shutdown solely for the purpose of performing the leak test would unnecessarily challenge safety-related equipment and could create hazards that could be avoided until the next scheduled refueling outage.

3.2.2 Alternative Testing

The licensee proposes:

The valve seat leakage test will be performed during the 2002 refueling outage, which is expected to commence no later than November 19, 2002. Relief request expires at the end of the 2002 refueling outage.

3.2.3 Evaluation

The licensee requests relief from the 2-year leak rate test frequency requirement of OM-10 paragraph 4.2.2.3(a) for valve 846. The licensee proposes a one-time alternative to perform the leak rate test of the valve during the 2002 refueling outage. Instead of performing the test at a 2-year frequency, the licensee would extend the test frequency by 7 months.

Valve 846 is a normally locked-open gate valve which provides a flow path from the refueling water storage tank to the RHR and the SIS pumps. During the safety injection phase of a design-basis accident, the valve remains open. The valve is repositioned closed to enable realignment to the high-head recirculation path following loss of the normal low- to high-head path. In this mode of operation, the valve must close to prevent contamination of the refueling water storage tank with potentially highly radioactive water from the containment sump.

Testing of valve 846 requires the plant to be in the cold shutdown or refueling mode. The leak rate test was last performed during the May 2000 refueling outage. Per the requirements of the Code, the next test must be performed by May 2002. However the licensee's next scheduled refueling outage is expected to occur in November 2002. In order for the licensee to comply with the Code requirements, IP2 would need to be placed in cold shutdown prior to May 2002 solely for performance of the leak rate test.

The valve is not subject to constant wear or harsh environmental conditions and remains in one position during the period of time between tests. The licensee's alternative proposes delaying the test for less than 1 year. Bringing the plant to cold shutdown for the performance of the leak rate test would unnecessarily challenge safety-related equipment and would result in hardship without a compensating increase in the level of quality and safety.

3.2.4 Conclusion

The NRC staff finds that compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The licensee's one-time alternative to the requirements of OM-10 paragraph 4.2.2.3(a) is authorized pursuant to 10 CFR 50.55a(a)(3)(ii). This alternative is authorized until the end of the 2002 refueling outage.

4.0 PUMP RELIEF REQUEST 5

The licensee requests relief from the requirement of OM-6 paragraph 5.5 for recirculation pumps 21 and 22. The Code requires pumps lacking fluid inventory to be tested at least once every 2 years. The licensee proposes a one-time alternative to test the pumps during the 2002 refueling outage.

4.1 Licensee's Basis for Requesting Relief

The licensee states:

Relief is requested from the ASME OM-6 Para. 5.5 requirement for the purpose of extending the test performance date until the next refueling outage, which is expected to commence no later than November 19, 2002. This relief request would result in an extension of approximately six months (May 30, 2002 to November 19, 2002).

The proposed extension provides an acceptable level of quality and safety. The recirculation pumps are located in containment and are part of a normally dry sump system. The pumps are not subject to constant wear or harsh environmental conditions and remain idle during the entire period between tests. Thus, the period of time between tests does not impact pump performance and the level of quality and safety will remain the same.

Strict compliance with the test frequency requirement would result in a hardship and unwarranted cost without a compensating increase in the level of quality and safety. A plant shutdown solely for the purpose of performing this test would unnecessarily challenge safety-related equipment and could create hazards that could be avoided until the next scheduled refueling outage. Furthermore, the need to keep personnel radiation exposure as low as reasonably achievable (ALARA) presents additional justification for the proposed relief request extension.

4.2 Alternative Testing

The licensee proposes:

The recirculation pumps will be tested during the 2002 refueling outage, which is expected to commence no later than November 19, 2002. Relief request expires at the end of the 2002 refueling outage.

4.3 Evaluation

The pumps for which the licensee requests relief are the recirculation pumps 21 and 22. Their function is to pump borated water from the recirculation sump to the reactor coolant system during the post-accident recirculation phase following a design-basis accident. Additionally, the pumps provide recirculation of borated water from the recirculation sump to the safety injection pumps during high-head recirculation. The Code, OM-6 paragraph 5.5, requires that pumps which are lacking fluid inventory be tested at least once every 2 years.

These pumps are located in a normally dry sump. In order to perform the testing, the sumps need to be flooded. This can only occur when the plant is shutdown. Pump testing was last performed during the May 2000 refueling outage. Per the requirements of the Code, the next test must be performed by May 2002. However, the licensee's next scheduled refueling outage is expected to occur in November 2002. In order for the licensee to comply with the Code requirements, IP2 would need to be placed in cold shutdown prior to May 2002 solely for performance of the pump test.

These pumps are not subject to constant wear or harsh environmental conditions and remain idle during the period of time between tests. The licensee's alternative proposes to delay the test for less than 1 year. Bringing the plant to cold shutdown for the performance of the pump test would unnecessarily challenge safety-related equipment and would result in hardship without a compensating increase in the level of quality and safety.

4.4 Conclusion

The NRC staff finds that compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The licensee's one-time alternative to the requirements of OM-6 paragraph 5.5 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii). This alternative is authorized until the end of the 2002 refueling outage.

Principal Contributor: M. Kotzalas

Date: September 5, 2001